



Heat Recovery System

The equipment pictured at left is a series of rooftop heat exchangers at Ball Metal Decorating & Service Division of Ball Corporation, Chicago, Illinois; the ducting and controls for the heat exchangers are shown at lower left. Their design was inspired by *Tech Briefs*, a NASA publication intended to let potential users know what NASA technology is available for transfer (see page 118). Dwight Raddatz, Ball Metal's director of engineering, used NASA heat transfer information contained in *Tech Briefs* as a departure point for his design of the energy-saving heat recovery system.

Ball Metal's heat exchangers are 12 feet long and composed of 64 three-inch diameter tubes with spiral heat "slingers" to improve heat transfer efficiency. Along with the heat exchangers, the company uses an economical, highly-efficient catalyst to decompose hydrocarbons in the exhaust flowing out of ovens used in the metal decorating process. The heat exchangers are installed on eight press and coating lines used to decorate metal sheets. Below, printed metal sheets are coming out of the drying ovens. Raddatz estimates that the heat recovery system is providing energy savings of more than \$250,000 a year.

